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Ephemeris for Physical Observations

Greenwich Noon.		P.	L−O.	B.	Apparent Diameter. Equat. 2a	Defect.	Polar. 2b	*d.*	*w.*	B′.
1896.		°	°	°	″	″	″	°	°	°
Oct.	7	23·121	16·323	−0·650	33·09	0·13	31·02	7·29	268·66	−0·69
	9	23·187	16·691	0·669	33·21	·14	31·13	7·50	268·61	0·71
	11	23·252	17·054	0·688	33·34	·15	31·25	7·71	268·56	0·73
	13	23·315	17·412	0·707	33·47	·16	31·37	7·41	268·52	0·75
	15	23·376	17·765	0·726	33·60	·17	31·49	8·11	268·48	0.77
	17	23·435	18·112	−0·745	33·74	0·18	31·62	8·30	268·44	−0·79
	19	23·493	18·452	0·764	33·88	·19	31·75	8·48	268·40	0·81
	21	23·548	18·786	0·783	34·03	·19	31·89	8·66	268·36	0·83
	23	23·602	19·114	0·801	34·18	·20	32·03	8·83	268·33	0·85
	25	23·654	19·435	0·820	34·33	·21	32·18	9·00	268·29	0·87
	27	23·704	19·749	−0·838	34·49	0·22	32·33	9·16	268·26	−0.89
	29	23·753	20·056	0·856	34·65	·23	32·48	9·31	268·23	0·91
	31	23·799	20·356	0·874	34·82	·24	32·64	9·45	268·20	0·93
Nov.	2	23·843	20·648	0·892	34·99	·24	32·80	9·59	268·16	0·95
	4	23·886	20·932	0·909	35·17	·25	32·97	9·72	268·13	0·97
	6	23·927	21·208	−0·926	35·35	0·26	33·14	9·84	268·10	−0·99
	8	23·967	21·475	0·943	35·54	·27	33·31	9·95	268·07	1·01
	10	24·005	21·733	0·960	35·73	·27	33·49	10·05	268·04	1·02
	12	24·041	21·983	0·977	35·92	·28	33·67	10·15	268·01	1·04
	14	24·075	22·224	0·994	36·12	·29	33·85	10·24	267·98	1·06
	16	24·107	22·455	−1·010	36·32	0·29	34·04	10·31	267·94	−1·08
	18	24·138	22·676	1·026	36·52	·30	34·23	10·38	267·91	1·10
	20	24·167	22·887	1·042	36·73	·30	34·43	10·43	267·88	1·11
	22	24·195	23·089	1·058	36·94	·31	34·63	10·48	267·85	1·13
	24	24·221	23·281	1·073	37·16	·31	34·83	10·52	267·82	1·14
	26	24·245	23·461	−1·088	37·38	0·32	35·04	10·54	267·79	−1·16
	28	24·268	23·631	1·103	37·60	·32	35·25	10·56	267·76	1·18
	30	24·289	23·790	1·117	37·83	·32	35·46	10·56	267·72	1·19
Dec.	2	24·308	23·937	1·131	38·06	·32	35·67	10·55	267·68	1·21
	4	24·326	24·073	1·145	38·29	·32	35·88	10·53	267·64	1·22
	6	24·342	24·198	−1·158	38·52	0·32	36·10	10·50	267·61	−1·24
	8	24·356	24·310	1·171	38·75	·32	36·32	10·46	267·57	1·25
	10	24·369	24·410	1·184	38·99	·32	36·55	10·41	267·54	1·26

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of Jupiter, 1896–97. By A. Marth.

Greenwich Noon.	Brightness in Star Magn.	Longitude of ♃'s Central Meridian. (877°·90) I.	(870°·27) II.	Corr. for Phase.	Light-time.	Λ−O.	*B.*
1896.	m	°	°	°	m	°	°
Oct. 7	−1·37	121·99	147·66	+0·23	50·331	9·0402	−0·4855
9	−1·38	77·54	87·94	·24	50·149	9·1961	·4938
11	−1·38	33·09	28·23	·26	49·962	9·3520	·5021
13	−1·39	348·65	328·53	·27	49·770	9·5078	·5103
15	−1·40	304·21	268·84	·29	49·573	9·6636	·5185
17	−1·41	259·79	209·15	+0·30	49·371	9·8193	−0·5267
19	−1·42	215·38	149·48	·31	49·164	9·9750	·5349
21	−1·43	170·97	89·81	·33	48·953	10·1307	·5431
23	−1·44	126·57	30·15	·34	48·737	10·2863	·5513
25	−1·45	82·19	330·50	·35	48·517	10·4419	·5595
27	−1·45	37·81	270·86	+0·36	48·293	10·5975	−0·5677
29	−1·46	353·44	211·24	·38	48·064	10·7530	·5759
31	−1·47	309·08	151·62	·39	47·832	10·9085	·5841
Nov. 2	−1·49	264·73	92·01	·40	47·596	11·0640	·5923
4	−1·50	220·40	32·41	·41	47·357	11·2195	·6005
6	−1·51	176·07	332·82	+0·42	47·114	11·3749	−0·6086
8	−1·52	131·75	273·24	·43	46·869	11·5303	·6168
10	−1·53	87·44	213·67	·44	46·620	11·6857	·6250
12	−1·54	43·15	154·11	·45	46·369	11·8410	·6331
14	−1·55	358·86	94·57	·46	46·116	11·9963	·6412
16	−1·56	314·59	35·03	+0·46	45·860	12·1515	−0·6493
18	−1·57	270·33	335·50	·47	45·603	12·3067	·6575
20	−1·59	226·07	275·99	·47	45·344	12·4619	·6656
22	−1·60	181·83	216·49	·48	45·084	12·6171	·6737
24	−1·61	137·59	156·99	·48	44·822	12·7723	·6818
26	−1·62	93·37	97·51	+0·48	44·559	12·9274	0·6899
28	−1·64	49·16	38·04	·48	44·296	13·0825	·6980
30	−1·65	4·96	338·58	·48	44·032	13·2375	·7061
Dec. 2	−1·66	320·78	279·13	·48	43·768	13·3925	·7142
4	−1·68	276·61	219·69	·48	43·505	13·5475	·7223
6	−1·69	232·44	160·27	+0·48	43·242	13·7025	−0·7303
8	−1·70	188·29	100·85	·48	42·979	13·8574	·7384
10	−1·71	144·15	41·45	·47	42·718	14·0123	·7465

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Greenwich Noon.		P.	L−O.	B.	Apparent Diameter. Equat. 2a	Defect.	Polar. 2b	*d.*	*w.*	B′.
1896.		°	°	°	″	″	″	°	°	°
Dec.	12	24·381	24·498	1·196	39·23	·32	36·77	10·35	267·50	1·28
	14	24·391	24·574	1·208	39·47	·32	36·99	10·27	267·45	1·29
	16	24·399	24·637	−1·219	39·71	0·31	37·22	10·17	267·40	−1·30
	18	24·406	24·688	1·230	39·95	·31	37·45	10·07	267·36	1·31
	20	24·411	24·726	1·241	40·20	·30	37·67	9·95	267·31	1·32
	22	24·415	24·751	1·251	40·44	·30	37·90	9·82	267·26	1·33
	24	24·417	24·763	1·261	40·68	·29	38·13	9·68	267·21	1·34
	26	24·418	24·763	−1·270	40·92	0·28	38·35	9·53	267·15	−1·35
	28	24·417	24·750	1·279	41·16	·27	38·58	9·36	267·09	1·36
	30	24·414	24·723	1·287	41·40	·26	38·80	9·18	267·03	1·37
1897.										
Jan.	1	24·410	24·683	1·294	41·64	·25	39·02	8·98	266·97	1·38
	3	24·404	24·631	1·301	41·87	·24	39·24	8·78	266·90	1·39
	5	24·396	24·565	−1·308	42·10	0·23	39·46	8·56	266·82	−1·40
	7	24·387	24·487	1·314	42·33	·22	39·67	8·32	266·74	1·40
	9	24·377	24·396	1·319	42·35	·21	39·88	8·08	266·66	1·41
	11	24·365	24·293	1·324	42·77	·20	40·08	7·82	266·57	1·41
	13	24·351	24·178	1·328	42·98	·19	40·28	7·55	266·47	1·42
	15	24·335	24·051	−1·332	43·19	0·17	40·48	7·27	266·36	−1·42
	17	24·318	23·913	1·335	43·39	·16	40·67	6·98	266·25	1·42
	19	24·300	23·763	1·337	43·58	·15	40·85	6·67	266·12	1·43
	21	24·280	23·602	1·339	43·77	·13	41·03	6·36	265·98	1·43
	23	24·258	23·430	1·341	43·95	·12	41·20	6·03	265·82	1·43
	25	24·235	23·248	−1·341	44·12	0·11	41·36	5·70	265·64	−1·43
	27	24·210	23·057	1·341	44·29	·10	41·51	5·35	265·44	1·43
	29	24·184	22·856	1·341	44·44	·08	41·65	4·99	265·21	1·43
	31	24·156	22·646	1·340	44·59	·07	41·79	4·63	264·95	1·43
Feb.	2	24·127	22·429	1·338	44·72	·06	41·92	4·26	264·64	1·43
	4	24·097	22·204	−1·336	44·84	0·05	42·03	3·88	264·27	−1·43
	6	24·065	21·972	1·333	44·95	·04	42·14	3·50	263·82	1·42
	8	24·032	21·733	1·329	45·06	·03	42·23	3·11	263·25	1·42
	10	23·998	21·489	1·325	45·15	·03	42·31	2·71	262·54	1·41
	12	23·962	21·240	1·321	45·22	·02	42·39	2·31	261·52	1·41
	14	23·925	20·987	−1·316	45·29	0·01	42·45	1·91	260·1	−1·40
	16	23·887	20·731	1·310	45·34	·01	42·50	1·50	258·0	1·40
	18	23·849	20·472	1·304	45·38	·00	42·53	1·10	254·2	1·39
	20	23·810	20·211	1·298	45·41	...	42·56	0·70	246·1	1·39
	22	23·770	19·949	1·291	45·42	...	42·57	0·35	220·1	1·38

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Greenwich Noon.		Bright-ness in Star Magn.	Longitude of ♃'s Central Meridian. (877°·90) I.	(870°·27) II.	Corr. for Phase.	Light-time.	Λ−O	*B*.
1896.		m	°	°	°	m	°	°
Dec.	12	−1·73	100·02	242·06	·47	42·458	14·1672	·7545
	14	−1·74	55·90	282·68	·46	42·200	14·3221	·7626
	16	−1·75	11·79	223·31	+0·45	41·944	14·4769	−0·7706
	18	−1·77	327·70	163·96	·44	41·691	14·6317	·7787
	20	−1·78	283·62	104·61	·43	41·440	14·7865	·7867
	22	−1·79	239·54	45·27	·42	41·192	14·9413	·7947
	24	−1·81	195·47	345·95	·41	40·947	15·0960	·8027
	26	−1·82	151·42	286·64	+0·39	40·706	15·2507	−0·8107
	28	−1·83	107·38	227·34	·38	40·469	15·4054	·8187
	30	−1·84	63·35	168·04	·37	40·236	15·5600	·8267
1897.								
Jan.	1	−1·86	19·33	108·76	·35	40·007	15·7146	·8347
	3	−1·87	335·31	49·49	·33	39·784	15·8692	·8427
	5	−1·88	291·31	350·22	+0·32	39·566	16·0238	−0·8506
	7	−1·89	247·32	290·97	·30	39·354	16·1783	·8586
	9	−1·90	203·34	231·73	·28	39·148	16·3328	·8665
	11	−1·92	159·36	172·49	·27	38·948	16·4873	·8745
	13	−1·93	115·40	113·26	·25	38·754	16·6418	·8824
	15	−1·94	71·44	54·04	+0·23	38·568	16·7962	−0·8903
	17	−1·95	27·49	354·83	·21	38·389	16·9506	·8982
	19	−1·96	343·54	295·62	·19	38·217	17·1050	·9061
	21	−1·97	299·60	236·42	·18	38·053	17·2594	·9140
	23	−1·98	255·67	177·23	·16	37·897	17·4137	·9219
	25	−1·98	211·74	118·04	+0·14	37·749	17·5680	−0·9298
	27	−1·99	167·81	58·85	·12	37·610	17·7223	·9377
	29	−2·00	123·89	359·67	·11	37·480	17·8765	·9456
	31	−2·01	79·98	300·49	·09	37·358	18·0307	·9535
Feb.	2	−2·01	36·06	241·32	·08	37·246	18·1849	·9613
	4	−2·02	352·15	182·15	+0·07	37·144	18·3391	−0·9691
	6	−2·03	308·24	122·98	·05	37·051	18·4932	0·9770
	8	−2·03	264·33	63·81	·04	36·968	18·6473	0·9848
	10	−2·04	220·42	4·63	·03	36·895	18·8014	0·9926
	12	−2·04	176·51	305·46	·02	36·833	18·9555	1·0004
	14	−2·04	132·59	246·28	·02	36·780	19·1096	−1·0082
	16	−2·04	88·67	187·10	+0·01	36·738	19·2636	1·0160
	18	−2·05	44·75	127·92	·00	36·706	19·4176	1·0238
	20	−2·05	0·82	68·74	. .	36·684	19·5716	1·0316
	22	−2·05	316·89	9·55	...	36·673	19·7255	1·0393

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Greenwich Noon.	P.	L−O.	B.	Apparent Diameter.			*d.*	*w.*	B′.
				Equat. 2a	Defect.	Polar. 2b			
1897.	°	°	°	″	″	″	°	°	°
Feb. 24	23·729	19·686	−1·284	45·42	...	42·57	0·32	142·8	−1·37
26	23·688	19·423	1·276	45·41	...	42·56	0·65	111·2	1·36
28	23·646	19·161	1·268	45·38	·00	42·54	1·04	102·2	1·35
Mar. 2	23·605	18·902	1·260	45·34	·01	42·50	1·45	97·0	1·34
4	23·563	18·646	1·251	45·29	·01	42·45	1·86	95·7	1·33
6	23·522	18·393	−1·242	45·23	0·02	42·39	2·26	94·1	−1·32
8	23·480	18·143	1·233	45·16	·02	42·32	2·66	93·17	1·31
10	23·439	17·898	1·224	45·07	·03	42·24	3·06	92·39	1·30
12	23·398	17·659	1·214	44·97	·04	42·15	3·45	91·83	1·29
14	23·358	17·426	1·204	44·86	·05	42·05	3·84	91·36	1·28
16	23·319	17·200	−1·195	44·74	0·06	41·93	4·22	90·98	−1·27
18	23·281	16·981	1·185	44·61	·07	41·81	4·59	90·67	1·26
20	23·244	16·771	1·175	44·47	·08	41·68	4·95	90·40	1·25
22	23·208	16·568	1·165	44·32	·09	41·54	5·31	90·16	1·24
24	23·173	16·374	1·156	44·16	·11	41·39	5·66	89·95	1·23
26	23·139	16·190	−1·147	43·99	0·12	41·23	5·99	89·77	−1·22
28	23·107	16·015	1·137	43·81	·13	41·06	6·32	89·61	1·21
30	23·077	15·851	1·127	43·62	·15	40·89	6·64	89·46	1·20
Apr. 1	23·049	15·697	1·118	43·43	·16	40·71	6·95	89·33	1·19
3	23·022	15·554	1·109	43·23	·17	40·52	7·24	89·21	1·18
5	22·997	15·422	−1·100	43·03	0·19	40·33	7·53	89·10	−1·17
7	22·974	15·302	1·091	42·82	·20	40·13	7·80	89·00	1·16
9	22·954	15·193	1·083	42·60	·21	39·93	8·06	88·91	1·15
11	22·936	15·097	1·075	42·38	·22	39·73	8·31	88·82	1·15
13	22·919	15·013	1·067	42·16	·23	39·52	8·55	88·74	1·14
15	22·905	14·941	−1·059	41·93	0·24	39·30	8·78	88·66	−1·13
17	22·893	14·881	1·052	41·70	·26	39·09	8·99	88·59	1·12
19	22·883	14·832	1·045	41·47	·27	38·87	9·19	88·52	1·12
21	22·876	14·796	1·038	41·24	·28	38·65	9·38	88·46	1·11
23	22·871	14·773	1·032	41·00	·28	38·43	9·56	88·39	1·10
25	22·868	14·761	−1·026	40·76	0·29	38·20	9·72	88·33	−1·10
27	22·868	14·762	1·021	40·52	·30	37·98	9·88	88·27	1·09
29	22·870	14·776	1·016	40·28	·31	37·76	10·02	88·22	1·08
May 1	22·875	14·802	1·012	40·04	·31	37·53	10·15	88·17	1·08
3	22·882	14·840	1·008	39·80	·32	37·31	10·26	88·12	1·07
5	22·891	14·890	−1·004	39·56	0·32	37·08	10·36	88·07	−1·07
7	22·902	14·952	1·001	39·33	·33	36·86	10·45	88·02	1·07
9	22·915	15·026	0·998	39·09	·33	36·64	10·53	87·98	1·06

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Greenwich Noon.	Brightness in Star Magn.	Longitude of ♃'s Central Meridian. (877°·90) I.	(870°·27) II.	Corr. for Phase.	Light-time.	A−O.	*B*.
1897.	m	°	°	°	m	°	°
Feb. 24	−2·05	272·96	310·35	...	36·672	19·8794	−1·0470
26	−2·05	229·01	251·15	...	36·682	20·0333	1·0548
28	−2·05	185·06	191·94	·00	36·702	20·1872	1·0625
Mar. 2	−2·04	141·10	132·72	−0·01	36·733	20·3410	1·0702
4	−2·04	97·14	73·49	·01	36·774	20·4948	1·0779
6	−2·04	53·16	14·25	·02	36·825	20·6486	−1·0856
8	−2·03	9·17	315·00	·03	36·887	20·8024	1·0933
10	−2·03	325·17	255·74	·04	36·958	20·9561	1·1010
12	−2·02	281·16	196·48	·05	37·039	21·1098	1·1087
14	−2·02	237·14	137·20	·06	37·130	21·2635	1·1164
16	−2·01	193·10	77·90	−0·08	37·231	21·4172	−1·1241
18	−2·01	149·05	18·59	·09	37·341	21·5708	1·1318
20	−2·00	104·99	319·27	·11	37·459	21·7244	1·1394
22	−1·99	60·92	259·94	·12	37·587	21·8780	1·1471
24	−1·98	16·83	200·59	·14	37·723	22·0316	1·1547
26	−1·97	332·73	141·22	−0·16	37·868	22·1852	−1·1623
28	−1·96	288·61	81·85	·17	38·021	22·3387	1·1699
30	−1·95	244·47	22·46	·19	38·182	22·4922	1·1775
Apr. 1	−1·94	200·32	323·05	·21	38·351	22·6457	1·1851
3	−1·93	156·16	263·62	·23	38·527	22·7992	1·1927
5	−1·92	111·98	204·18	−0·25	38·710	22·9527	−1·2003
7	−1·91	67·78	144·73	·27	38·900	23·1061	1·2079
9	−1·90	23·57	85·26	·28	39·096	23·2595	1·2155
11	−1·89	339·34	25·77	·30	39·299	23·4129	1·2230
13	−1·88	295·10	326·27	·32	39·507	23·5663	1·2305
15	−1·86	250·84	266·75	−0·34	39·721	23·7196	−1·2380
17	−1·85	206·57	207·22	·35	39·940	23·8729	1·2455
19	−1·84	162·28	147·67	·37	40·164	24·0262	1·2530
21	−1·83	117·98	88·11	·38	40·393	24·1795	1·2605
23	−1·81	73·66	28·53	·40	40·626	24·3327	1·2680
25	−1·80	29·33	328·94	−0·41	40·864	24·4859	−1·2755
27	−1·79	344·98	269·33	·42	41·105	24·6391	1·2830
29	−1·77	300·62	209·71	·44	41·349	24·7923	1·2905
May 1	−1·76	256·24	150·08	·45	41·597	24·9455	1·2979
3	−1·75	211·85	90·43	·46	41·847	25·0986	1·3053
5	−1·73	167·45	30·77	−0·47	42·100	25·2517	−1·3127
7	−1·72	123·03	331·09	·48	42·355	25·4048	1·3201
9	−1·71	78·60	271·4	·48	42·612	25·5579	1·3275

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Greenwich Noon.	P.	L−O.	B.	Apparent Diameter. Equat. 2a	Apparent Diameter. Defect.	Apparent Diameter. Polar. 2b	*d*.	*w*.	B′.
1897.	°	°	°	″	″	″	°	°	°
May 11	22·931	15·111	0·996	38·85	·33	36·42	10·60	87·93	1·06
13	22·949	15·208	0·994	38·62	·33	36·20	10·66	87·89	1·06
15	22·969	15·317	−0·992	38·39	0·33	35·98	10·70	87·85	−1·06
17	22·991	15·437	0·991	38·16	·33	35·76	10·74	87·80	1·06
19	23·015	15·568	0·991	37·93	·33	35·55	10·76	87·76	1·06
21	23·041	15·709	0·991	37·70	·33	35·34	10·77	87·72	1·06
23	23·068	15·860	0·991	37·48	·33	35·13	10·77	87·69	1·06
25	23·097	16·022	−0·992	37·26	0·33	34·92	10·76	87·65	−1·06
27	23·128	16·195	0·993	37·04	·32	34·72	10·74	87·61	1·06
29	23·160	16·378	0·995	36·83	·32	34·52	10·71	87·57	1·06
31	23·194	16·570	0·997	36·62	·32	34·32	10·67	87·53	1·06
June 2	23·230	16·772	0·999	36·41	·31	34·12	10·63	87·49	1·07
4	23·267	16·983	−1·002	36·20	0·31	33·93	10·57	87·46	−1·07
6	23·305	17·204	1·006	36·00	·30	33·74	10·50	87·42	1·07
8	23·344	17·434	1·010	35·81	·30	33·56	10·42	87·38	1·08
10	23·384	17·672	1·014	35·61	·29	33·38	10·33	87·34	1·08
12	23·426	17·918	1·019	35·42	·28	33·20	10·24	87·31	1·09
14	23·469	18·173	−1·024	35·24	0·28	33·03	10·14	87·27	−1·09
16	23·513	18·436	1·030	35·06	·27	32·86	10·03	87·23	1·10
18	23·557	18·707	1·036	34·88	·26	32·69	9·91	87·19	1·11
20	23·601	18·985	1·042	34·70	·25	32·53	9·79	87·15	1·11
22	23·646	19·271	1·049	34·53	·24	32·37	9·65	87·11	1·12
24	23·693	19·564	−1·056	34·37	0·24	32·21	9·51	87·07	−1·13
26	23·740	19·864	1·063	34·21	·23	32·06	9·36	87·03	1·13
28	23·787	20·171	1·071	34·05	·22	31·91	9·21	86·99	1·14
30	23·834	20·485	1·079	33·89	·21	31·77	9·05	86·95	1·15
July 2	23·882	20·806	1·088	33·74	·20	31·63	8·88	86·91	1·16
4	23·930	21·132	−1·097	33·60	0·19	31·49	8·71	86·86	−1·17
6	23·978	21·464	1·106	33·46	·18	31·36	8·53	86·81	1·18
8	24·027	21·802	1·116	33·32	·18	31·23	8·34	86·76	1·19
10	24·075	22·146	1·126	33·19	·17	31·10	8·15	86·71	1·20
12	24·123	22·496	1·136	33·06	·16	30·98	7·95	86·66	1·21
14	24·170	22·850	−1·147	32·93	0·15	30·87	7·75	86·60	−1·22

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Greenwich Noon.		Brightness in Star Magn.	Longitude of ♃'s Central Meridian. (877°·90) I.	(870°·27) II.	Corr. for Phase.	Light-time.	A – O.	*B.*
1897.		m	°	°	°	m	°	°
May	11	–1·69	34·15	211·70	·49	42·871	25·7109	1·3349
	13	–1·68	349·70	151·99	·49	43·131	25·8639	1·3423
	15	–1·67	305·23	92·26	–0·50	43·392	26·0169	–1·3496
	17	–1·65	260·75	32·52	·50	43·654	26·1699	1·3570
	19	–1·64	216·26	332·77	·50	43·916	26·3229	1·3644
	21	–1·63	171·76	273·01	·50	44·179	26·4758	1·3717
	23	–1·61	127·24	213·24	·50	44·442	26·6287	1·3790
	25	–1·60	82·72	153·46	–0·50	44·705	26·7816	–1·3863
	27	–1·59	38·19	93·67	·50	44·967	26·9345	1·3939
	29	–1·58	353·65	33·87	·50	45·229	27·0874	1·4009
	31	–1·56	309·10	334·06	·50	45·490	27·2403	1·4082
June	2	–1·55	264·54	274·24	·49	45·749	27·3931	1·4155
	4	–1·54	219·97	214·41	–0·49	46·007	27·5459	–1·4227
	6	–1·53	175·39	154·57	·48	46·264	27·6987	1·4300
	8	–1·51	130·81	94·73	·47	46·519	27·8515	1·4372
	10	–1·50	86·22	34·88	·46	46·771	28·0042	1·4444
	12	–1·49	41·62	335·02	·46	47·022	28·1570	1·4516
	14	–1·48	357·01	275·16	–0·45	47·270	28·3097	–1·4588
	16	–1·47	312·40	215·29	·44	47·515	28·4624	1·4660
	18	–1·46	267·78	155·41	·43	47·757	28·6151	1·4732
	20	–1·45	223·15	95·53	·42	47·997	28·7678	1·4804
	22	–1·44	178·52	35·64	·41	48·233	28·9204	1·4876
	24	–1·43	133·89	335·75	–0·39	48·467	29·0730	–1·4947
	26	–1·42	89·25	275·85	·38	48·696	29·2256	1·5019
	28	–1·41	44·60	215·94	·37	48·922	29·3782	1·5090
	30	–1·40	359·95	156·03	·36	49·144	29·5308	1·5161
July	2	–1·39	315·30	96·12	·34	49·362	29·6833	1·5232
	4	–1·38	270·64	36·21	–0·33	49·576	29·8358	–1·5303
	6	–1·37	225·98	336·29	·32	49·786	29·9883	1·5374
	8	–1·36	181·32	276·37	·30	49·991	30·1408	1·5445
	10	–1·35	136·65	216·44	·29	50·191	30·2933	1·5515
	12	–1·34	91·98	156·51	·28	50·387	30·4457	1·5585
	14	–1·33	47·31	96·58	–0·26	50·578	30·5981	–1·5655

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P denotes the position-angle of *Jupiter's* axis ; L − O + 180° the jovicentric longitude of the Earth reckoned in the plane of the planet's equator from O, the point of the vernal equinox of *Jupiter's* northern hemisphere or of the descending node of the planet's equator on its orbit ; B the jovicentric latitude of the Earth above the equator.

The apparent equatorial and polar diameters of the disc depend on Professor Barnard's measurements adopted in the ephemeris for the preceding apparition, as they are required for the fifth satellite. It would be well if many of the first-rate instruments and micrometers available for the purpose were made to contribute to the investigation of the dimensions of the disc. The formulæ for finding the distances of the tangents to the limbs in right ascension and declination and in other directions, and also the defects of illumination, are published in vol. xl. p. 490 ff, and in vol. xlv. p. 408. To save trouble, the present ephemeris supplies again the values of *d* and *w*.

The brightness of *Jupiter*, expressed in star magnitudes, supposes $-2^{\mathrm{m}}{\cdot}233$ to be the brightness at mean opposition according to Professor G. Müller's determination.

The longitudes of *Jupiter's* central meridian are computed with unaltered values of the rates of rotation and of the zero-meridians in the two adopted systems. The addition of the " Corr. for Phase " gives the longitudes of the meridians, which bisect the illuminated disc. The following is a list of Greenwich mean times, when the adopted zero-meridians in the two systems will pass the middle of the illuminated disc :—

1896.		I. (877°·90) h m	II. (870°·27) h m
Oct.	6	20 39·5	19 55·3
	7	16 20·7	15 46·8
	8	12 1·8	11 38·3
		21 52·4	21 34·1
	9	17 33·6	17 25·6
	10	13 14·7	13 17·1
		23 5·3	23 12·8
	11	18 46·5	19 4·4
	12	14 27·6	14 55·9
	13	0 18·2	0 51·6
		19 59·3	20 43·1
	14	15 40·5	16 34·6
	15	11 21·6	12 26·1
		21 12·2	22 21·9
	16	16 53·3	18 13·4
	17	12 34·5	14 4·9
		22 25·0	24 0·6
Oct.	18	18 6·2	19 52·1
	19	13 47·3	15 43·6
	20	9 28·4	11 35·1
		19 19·0	21 30·8
	21	15 0·1	17 22·3
	22	10 41·2	13 13·8
		20 31·8	23 9·5
	23	16 12·9	19 1·0
	24	11 37	♃'s centre 72″·3 north of ✶ $9^{\mathrm{m}}{\cdot}0$.
		11 54·1	14 52·5
		21 44·6	24 48·2
	25	17 25·7	20 39·7
	26	13 6·8	16 21·2
	27	18 38·5	22 18·4

1896.		I. (877°·90) h	m	II. (870°·27) h	m
Oct.	28	14	19·6	18	9·8
	29	10	0·7	14	1·3
		19	51·2	23	57·0
	30	15	32·3	19	48·5
	31	11	13·4	15	39·9
Nov.	1	16	45·1	21	27·1
	2	12	26·2	17	18·5
	3	17	57·8	13	10·0
	4	13	38·9	18	57·1
	5	9	20·0	14	48·6
		19	10·5	24	44·3
	6	14	51·6	20	35·7
	7	10	32·6	16	27·1
	8	16	4·2	12	18·6
	9	11	45·3	18	5·7
	10	17	16·9	13	57·1
	11	12	58·0	19	44·2
	12	18	29·5	15	35·6
	13	14	0·6	21	22·7
	14	19	42·2	17	14·2
	15	15	23·2	13	5·6
	16	11	4·2	18	52·7
	17	16	35·8	14	44·1
	18	12	16·8	10	35·5
		22	7·4	20	31·1
	19	17	48·4	16	22·5
	20	13	29·4	12	13·9
		23	20·0	22	9·6
	21	19	1·0	18	1·0
	22	14	42·0	13	52·4
		24	32·5	23	48·1
	23	10	23·0	9	43·8
		20	13·5	19	39·4
	24	15	54·5	15	30·8
	25	11	35·6	11	22·2
		21	26·1	21	17·9
	26	17	7·1	17	9·2
	27	12	48·1	13	0·6
Nov.	27	22	38·6	22	56·3
	28	18	19·6	18	47·6
	29	14	0·6	14	39·0
		23	51·1	24	34·6
	30	19	32·1	20	26·0
Dec.	1	15	13·0	16	17·4
	2	10	54·0	12	8·7
		20	44·5	22	4·4
	3	16	25·5	17	55·7
	4	12	6·5	13	47·1
		21	57·0	23	42·7
	5	17	38·0	19	34·0
	6	13	18·9	15	25·4
	7	8	59·9	11	16·7
		18	50·4	21	12·3
	8	14	31·3	17	3·7
	9	10	12·3	12	55·0
		20	2·8	22	50·6
	10	15	43·7	18	41·9
	11	11	24·7	14	33·3
		21	15·2	24	28·9
	12	7	5·7	10	24·6
		16	56·1	20	20·2
	13	12	37·1	16	11·5
	14	8	18·0	12	2·8
		18	8·5	21	58·5
	15	13	49·4	17	49·8
	16	9	30·4	13	41·1
		19	20·9	23	36·7
	17	15	1·8	19	28·0
	18	10	42·7	15	19·3
	19	6	23·7	11	10·6
		16	14·1	21	6·2
	20	11	55·0	16	57·5
	21	7	36·0	12	48·8
		17	26·4	22	44·4
	22	13	7·3	8	40·0
		22	57·8	18	35·7

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		I. (877°·90)	II. (870°·27)			I. (877°·90)	II. (870°·27)
1896.		h m	h m	1897.		h m	h m
Dec.	23	8 48·3	14 26·9	Jan.	14	12 12·0	12 34·6
		18 38·7	24 22·6			22 2·5	22 30·2
	24	14 19·6	10 18·2		15	7 52·9	8 25·8
		24 10·1	20 13·8			17 43·3	18 41·4
	25	10 0·6	16 5·1		16	13 24·2	14 12·6
	26	15 31·9	11 56·3		17	9 5·0	10 3·8
	27	11 12·8	17 43·2			18 55·4	19 59·4
	28	16 44·1	13 34·5		18	14 36·3	15 50·6
	29	12 25·0	9 25·7		19	10 17·1	11 41·8
		22 15·5	19 41·4			20 7·5	21 37·4
	30	17 56·4	15 12·6		20	5 57·9	7 33·0
	31	13 37·3	11 3·9			15 48·4	17 28·6
		23 27·7	20 59·5		21	11 29·2	13 19·8
1897. Jan.	1	9 18·2	6 55·1			21 19·6	23 15·4
		19 8·6	16 50·7		22	7 10·0	9 10·9
	2	14 49·5	12 42·0			17 0·4	19 6·5
		24 39·9	22 37·6		23	12 41·3	14 57·7
	3	10 30·4	8 33·2		24	8 22·1	10 48·9
		20 20·8	18 28·8			18 12·5	20 44·5
	4	6 11·3	14 20·0		25	4 2·9	6 40·1
		16 1·7	24 15·6			13 53·3	16 35·7
	5	11 42·6	10 11·3		26	9 34·2	12 26·8
		21 33·0	20 6·9			19 24·6	22 22·4
	6	7 23·4	6 2·5		27	5 15·0	8 18·0
		17 13·9	15 58·1			15 5·4	18 13·6
	7	12 54·7	11 49·3		28	10 46·2	4 9·2
		22 45·2	21 44·9			20 36·6	14 4·8
	8	8 35·6	7 40·5		29	6 27·0	9 56·0
		18 26·0	17 36·1			16 17·5	19 51·6
	9	14 6·9	13 27·4		30	11 58·3	5 47·1
		23 57·3	23 23·0			21 48·7	15 42·7
	10	9 47·8	9 18·6		31	7 39·1	11 33·9
		19 38·2	19 14·2			17 29·5	21 29·5
	11	15 19·0	15 5·4	Feb.	1	13 10·3	7 25·0
	12	10 59·9	10 56·6			23 0·7	17 20·6
		20 50·3	20 52·2		2	8 51·1	13 11·8
	13	6 40·8	6 47·8			18 41·5	23 7·4
		16 31·2	16 43·4		3	4 32·0	9 3·0

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1897.		I. (877°·90)	II. (870°·27)
		h m	h m
Feb.	3	14 22·4	18 58·5
	4	10 3·2	4 54·1
		19 53·6	14 49·7
	5	5 44·0	10 40·9
		15 34·4	20 36·5
	6	11 15·2	6 32·0
		21 5·6	16 27·6
	7	6 56·0	12 18·8
		16 46·4	22 14·4
	8	12 27·2	8 10·0
		22 17·7	18 5·5
	9	8 8·1	4 1·1
		17 58·5	13 56·7
	10	3 48·9	9 47·9
		13 39·3	19 43·5
	11	9 20·1	5 39·0
		19 10·5	15 34·6
	12	5 0·9	11 25·8
		14 51·3	21 21·4
	13	10 32·1	7 16·9
		20 22·5	17 12·5
		22 35·5 ♃'s centre 30″·8 north of ✱ 8m·8.	
	14	6 12·9	3 8·1
		16 3·3	13 3·7
	15	11 44·1	8 54·8
		21 34·6	18 50·4
	16	7 25·0	4 46·0
		17 15·4	14 41·6
	17	3 5·8	10 32·8
		12 56·2	20 28·4
	18	8 37·0	6 24·0
		18 27·4	16 19·5
	19	4 17·8	2 15·1
		14 8·2	12 10·7
	20	9 49·1	8 1·9
		19 39·5	17 57·4
	21	5 29·9	3 53·0
Feb.	21	15 20·3	13 48·6
	22	11 1·1	9 39·8
		20 51·5	19 35·4
	23	6 41·9	5 31·0
		16 32·3	15 26·6
	24	12 13·2	11 17·7
		22 3·5	21 13·3
	25	7 54·0	7 8·9
		17 44·4	17 4·5
	26	3 34·8	3 0·1
		13 15·2	12 55·7
	27	9 6·1	8 46·9
		18 56·5	18 42·5
	28	4 46·9	4 38·1
		14 27·3	14 33·6
Mar.	1	10 18·2	10 24·8
		20 8·6	20 20·4
	2	5 59·0	6 16·0
		15 49·4	16 11·6
	3	11 30·3	12 2·8
		21 20·7	21 58·4
	4	7 11·1	7 54·0
		17 1·6	17 49·6
	5	2 52·0	3 45·2
		12 42·4	13 40·9
	6	8 23·3	9 32·1
		18 13·7	19 27·7
	7	4 4·1	5 23·3
		13 54·6	15 18·9
	8	9 35·4	11 10·1
		19 25·9	21 5·7
	9	5 16·3	7 1·3
		15 6·7	16 56·9
	10	10 47·3	12 48·2
	11	6 28·5	8 39·4
		16 18·9	18 35·0
	12	2 9·4	4 30·6
		11 59·8	14 26·2

1897.		I. (877°·90) h	m	II. (870°·27) h	m	1897.		I. (877°·90) h	m	II. (870°·27) h	m
Mar.	13	7	40·7	10	17·5	Apr.	3	5	34·7	2	39·8
		17	31·3	20	13·1			15	25·2	12	35·5
	14	3	21·6	6	8·7		4	1	15·7	8	26·9
		13	12·1	16	4·3			11	6·2	18	22·5
	15	8	53·0	11	55·6		5	6	47·2	4	18·2
	16	4	33·9	7	46·9			16	37·7	14	13·9
		14	24·3	17	42·5		6	12	18·8	10	5·3
	17	10	5·2	3	38·1		7	7	59·8	5	56·6
		19	55·7	13	33·7			17	50·3	15	52·3
	18	5	46·1	9	25·0		8	13	31·3	11	43·7
		15	36·6	19	20·7		9	9	12·3	7	35·1
	19	1	27·1	5	16·3			19	2·8	17	30·8
		11	17·5	15	11·9		10	4	53·3	3	26·5
	20	6	58·4	11	3·2			14	43·9	13	22·1
	21	2	39·4	6	54·5		11	10	24·9	9	13·5
		12	29·8	16	50·1			20	15·4	19	9·2
	22	8	10·8	12	41·4		12	6	5·9	5	4·9
	23	3	51·7	8	32·7			15	56·5	15	0·6
		13	42·2	18	28·3		13	11	37·5	10	52·0
	24	9	23·1	4	24·0		14	7	18·6	6	43·5
		19	13·6	14	19·6			17	9·1	16	39·2
	25	5	4·0	10	10·9		15	12	50·1	12	30·6
		14	54·5	20	6·6		16	8	31·2	8	22·0
	26	10	35·5	6	2·2			18	21·7	18	17·7
		20	25·9	15	57·9		17	4	12·3	4	13·4
	27	6	16·4	11	49·2			14	2·8	14	9·1
	28	1	57·4	7	40·5		18	9	43·9	10	0·5
		11	47·9	17	36·2			19	34·4	19	56·3
	29	7	28·8	3	31·8		19	5	24·9	5	52·0
		17	19·3	13	27·5			15	15·5	15	47·7
	30	3	9·8	9	18·8		20	10	56·5	11	39·1
		13	0·3	19	14·4		21	6	37·6	7	30·5
	31	8	41·3	5	10·0			16	28·2	17	26·3
		18	31·8	15	5·7		22	2	18·7	3	22·0
Apr.	1	4	22·3	10	57·1			12	9·3	13	17·7
		14	12·7	20	52·8		23	7	50·4	9	9·2
	2	9	53·7	6	48·5			17	40·9	19	4·9
		19	44·2	16	44·2		24	3	31·5	5	0·6

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1897.		I. (877°·90)		II. (870°·27)	
		h	m	h	m
Apr.	24	13	22·0	14	56·3
	25	9	3·1	10	47·8
	26	4	44·2	6	39·3
		14	34·8	16	35·0
	27	10	15·9	12	26·5
	28	5	57·0	8	17·9
		15	47·6	18	13·7
	29	11	28·7	14	5·1
	30	7	9·8	9	56·6
		17	0·4	19	52·4
May	1	2	50·9	5	48·1
		12	41·5	15	43·9
	2	8	22·6	11	35·4
	3	4	3·8	7	26·9
		13	54·4	17	22·6
	4	9	35·5	13	14·1
	5	5	16·6	9	5·6
		15	7·2	19	1·4
	6	10	48·4	14	52·9
	7	6	29·5	10	44·4
	8	2	10·7	6	35·9
		12	1·3	16	31·7
	9	7	42·4	12	23·2
	10	3	23·6	8	14·7
		13	14·2	18	10·5
	11	8	55·4	4	6·2
		18	45·9	14	2·0
	12	4	36·5	9	53·5
		14	27·1	19	49·3
	13	10	8·3	5	45·1
		19	58·9	15	40·8
	14	15	40·1	11	32·4
	15	1	30·7	7	23·9
		11	21·3	17	19·7
	16	7	2·4	13	11·2
	17	2	43·6	9	2·8
		12	34·2	18	58·5
	18	8	15·4	4	54·3

1897.		I. (877°·90)		II. (870°·27)	
		h	m	h	m
May	18	18	6·0	14	50·1
	19	13	47·2	10	41·7
	20	9	28·4	6	33·3
		19	19·0	16	29·0
	21	15	0·3	12	20·6
	22	10	41·5	8	12·1
	23	6	22·7	4	3·7
		16	23·3	13	59·5
	24	11	54·5	9	51·1
	25	7	35·7	5	42·6
		17	26·3	15	38·4
	26	13	7·5	11	30·0
	27	8	48·8	7	21·6
		18	39·4	17	17·4
	28	14	20·6	13	9·0
	29	10	1·8	9	0·6
	30	15	33·7	14	48·0
	31	11	14·9	10	39·6
June	1	6	56·2	6	31·2
		16	46·8	16	27·0
	2	12	28·1	12	18·6
	3	8	9·3	8	10·2
		17	59·9	18	6·0
	4	3	50·5	4	1·8
		9	5	♃'s centre 38″·6 south of ✶ 8^{m}·4.	
		13	41·2	13	57·6
	5	9	22·4	9	49·2
	6	14	54·3	15	36·6
	7	10	35·5	11	28·2
	8	6	16·8	7	19·8
		16	7·4	17	15·6
	9	11	48·7	13	7·2
	10	7	29·9	8	58·8
	11	13	1·8	14	46·3
	12	8	43·1	10	37·9
	13	4	24·4	6	29·5
		14	15·0	16	25·3

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		I. (877°·90)		II. (870°·27)				I. (877°·90)		II. (870°·27)	
1897.		h	m	h	m	1897.		h	m	h	m
June	14	9	56·3	12	17·0	June	30	9	51·3	15	34·0
	15	5	37·5	8	8·6	July	1	5	32·6	11	25·6
	16	11	9·4	13	56·0		2	11	4·5	7	17·3
	17	6	50·7	9	47·7		3	6	45·8	13	4·8
	18	12	22·6	15	35·1		4	12	17·8	8	56·4
	19	8	3·9	11	26·8		5	7	59·1	14	43·9
	20	13	35·8	7	18·4		6	13	31·1	10	35·6
	21	9	17·1	13	5·9		7	9	12·4	6	27·3
	22	4	58·4	8	57·5		8	4	53·7	12	14·8
	23	10	30·3	14	45·0		9	10	25·6	8	6·4
	24	6	11·6	10	36·6		10	6	6·9	13	53·9
	25	11	43 6	6	28·2		11	11	38·9	9	45·6
	26	7	24·8	12	15·7		12	7	20·2	15	33·1
	27	12	56·8	8	7·4		13	12	52·1	11	24·7
	28	8	38·1	13	54·9		14	8	33·5	7	16·4
	29	4	19·4	9	46·5						

The intervals between successive passages of the zero-meridian vary in System I. between $9^h\ 50^m{\cdot}40$ and $50^m{\cdot}66$, and in II. between $9^h\ 55^m{\cdot}58$ and $55^m{\cdot}84$. The differences of successive values of the longitude of ♃'s Central Meridian for the two days interval vary in System I. between 1755°·33 and 1756°·09, and in II. between 1740°·07 and 1740°·83.

Though System I. has, for some years past, ceased to represent the motion of any special spot, I continue to give it, so that it may be ready for being of use in the reduction of the observations of any equatorial spots. The rate of motion of the great reddish spot has been during eleven years so near the adopted 870°·27 of System II., that the longitude of the middle of the spot has remained within 10° of the adopted zero-meridian. The only observed passages across the middle meridian of the disc made during the planet's last apparition, which have yet reached me, are the following four, kindly communicated by Mr. Denning:

			h	m	°				h	m	°
1895	Aug.	24	16	24	$\omega=5{\cdot}7$	1896	Feb.	10	6	49	$\omega=8{\cdot}3$
	Sept.	29	16	11	3·3			22	6	43	8·7

to which I can now add the first of the present apparition, which Mr. Denning has been on the alert to secure, 1896 September 27 $17^h\ 43^m$ $\omega=8^\circ{\cdot}9$, so that the middle of the spot follows the zero-meridian about a quarter of an hour.

The observed passages of the second of the two dark spots observable during last season in *Jupiter's* northern hemisphere indicate that its daily rate of rotation has been very nearly 0°·20 greater than that of the zero-meridian II., and that its longitude has been 270°·50—0°·20 (t—1896 January 21·0). The residual differences between the longitudes ω corresponding to the observed times and the longitudes given by this formula are found in the following list, which contains all the observed passages which hitherto have come to my knowledge :

	G.M.T.	ω	O−C.	Observer.	References.
1895.	h m	°	°		
Sept. 26	16 45	293·3	−0·1	Denning	Observatory, p. 327
Oct. 27	17 15	288·3	+0·7	MacEwen*	
Nov. 15	17 48	283·7	0·0	Brenner	Bull. Soc. Ast. Fr., p. 31
23	14 20	280·6	−1·6	Lunt*	
1896.					
Jan. 15	12 48	275·4	+3·8	Lunt*	
25	10 55·5	271·3	+1·7	Brenner	Journ. B. A. A., p. 214
28	8 21	269·1	+0·1	Gledhill	Monthly Not., p. 483
	8 22	269·7	+0·7	MacEwen*	
30	9 58	268·5	−0·1	Gledhill	
Feb. 2	7 22	265·4	−2·7	MacEwen*	
4	9 2	266·6	−1·1	Denning	
6	10 41	267·1	−0·1	Gledhill	
	10 46	270·2	+2·9	Brenner	
9	8 6	264·5	−2·1	Gledhill	
	8 9·91	266·90	+0·27	Martin†	
	8 14	269·4	+2·7	Brenner	
10	13 51·25	263·56	−2·02	Martin	
11	9 40	262·1	−4·2	Gledhill	
	9 50·56	268·43	+2·21	Martin	
	9 51·5	269·0	+2·8	Brenner	
13	11 23·48	265·30	−0·50	Martin	
14	7 16	266·1	+0·4	Gledhill	
16	9 5	267·0	+1·7	Antoniadi	Bull. Soc. Ast. Fr., p. 101
18	0 35·4	265·3	+0·4	Merfield	Journ. B. A. A., p. 388
20	12 7·24	264·07	−0·33	Rambaut†	
21	7 57	263·1	−1·1	MacEwen*	
	7 57·76	263·47	−0·76	Rambaut	
	7 59	264·3	+0·1	Denning	

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* Communicated by Mr. Waugh in advance of the Fifth Report of the *Jupiter* Section of the British Astronomical Association.

† "Scientific Proceedings of the Royal Dublin Society," vol. viii. p. 397.

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1896.		G.M.T. h	m	ω °	O−C. °	Observer.	References.
Feb.	23	9	35	263·0	−0·8	Gledhill	
		9	37·25	264·33	+0·51	Rambaut	
	24	5	30	265·2	+1·6	Gledhill	
	26	7	5·96	263·82	+0·58	Rambaut	
		7	6	263·8	+0·6	Gledhill	
Mar.	1	10	15	259·2	−3·2	,,	
		10	20·30	262·41	0·00	Rambaut	
	4	7	48	261·2	−0·6	Gledhill	
	5	23	38·4	265·8	+4·3	Merfield	
	6	9	25	260·3	−1·1	Gledhill	
	8	1	15·4	265·0	+3·9	Merfield	
	8	11	5	261·3	+0·3	Gledhill	
	9	6	55	260·4	−0·4	,,	
		6	55·98	261·02	+0·18	Rambaut	
		6	58	262·2	+1·4	MacEwen	
	11	8	33	260·1	−0·3	Brenner	
	15	21	50·4	263·0	+3·4	Merfield	
	16	7	39·61	259·03	−0·41	Rambaut	
		7	43	261·1	+1·6	Gledhill	
		7	44	261·7	+2·2	Brenner	Journ. B. A. A., p. 272
	18	9	18·5	259·2	+0·2	,,	
		9	20	260·1	+1·1	Gledhill	
	22	12	36·78	259·87	+1·68	Hartwig	Astr. Nachr. 140, p. 167
	22	22	32·4	259·8	+1·7	Merfield	
	23	8	22	256·1	−1·9	Gledhill	
		8	24	257·3	−0·7	Brenner	
		8	25·4	258·1	+0·1	Lamp	Astr. Nachr. 140, p. 169
		8	27·6	259·5	+1·5	Villiger	,, ,, p. 320
		8	27·70	259·54	+1·51	Hartwig	
	25	9	57	253·9	−3·7	Gledhill	
	26	5	57	259·1	+1·6	Brenner	
	28	7	30	255·6	−1·4	Gledhill	
	30	9	9	255·8	−0·9	,,	
Apr.	4	8	19	256·4	+0·7	Brenner	
	9	7	23	253·2	−1·4	Gledhill	
	11	8	58	250·9	−3·3	,,	
	16	8	6	250·1	−3·1	,,	
	18	9	45·5	250·5	−2·3	,,	
	20	11	29	253·2	+0·8	,,	

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1896.	G.M.T. h m	ω °	O−C. °	Observer.	References.
Apr. 23	8 54	249·9	−1·9	Gledhill	
28	8 3	249·6	−1·2	„	
	8 11	254·4	+3·6	Brenner	Journ. B. A. A., p. 424
30	9 43	250·2	−0·2	Gledhill	
May 5	8 50·5	248·9	−0·5	„	
10	8 0	248·7	+0·3	„	
June 8	6 54	240·4	−2·3	Brenner	

In case this garnet spot has not meanwhile vanished and keeps moving at the daily rate of rotation 870°·47 (corresponding to the period $9^{h}\ 55^{m}\ 32^{s}\cdot42$), it may be looked for

on Oct. 27 in long. 214°·5, or $4^{h}\ 1^{m}$ preceding the zero-meridian II.
on Dec. 26 „ 202·5 „ 4 21 „ „ „ „

If, on *Jupiter's* spheroidal surface, ω is the (jovicentrically western) longitude of a spot or marking in the adopted system of longitudes, ω_0 that of the central meridian, and β' the latitude of the spot, the apparent co-ordinates x and y of the spot, referred to the semiaxes a and b, will be

$$x = a \sin(\omega-\omega_0)\cos\beta'$$
$$y = b \sin(\beta'-B') + x \tan\tfrac{1}{2}(\omega-\omega_0)\sin B$$

where $\tan B' = \tan B \sec \epsilon_0$ and $\tan\beta' = \tan\beta \sec\epsilon_0$, if β is the jovicentric latitude, which is, however, not wanted. Near the central meridian the second term of y is insignificant, so that β' is found by

$$\sin(\beta'-B') = \frac{y}{b},$$

and ω by

$$\sin(\omega-\omega_0) = \frac{x}{a}\sec\beta',$$

the defect of illumination being duly taken into account in measuring.

The star $9^{m}\cdot0$, near which *Jupiter* passes on October 24, is W.B. $10^{h}\cdot445$. On February 13 the star $8^{m}\cdot8$, BD + 10°·2181 = W.B. $10^{h}\cdot580$, will be in conjunction with the

	h	m	″	
preceding border of the disc at ...	21	24	31·7	south
Centre „ „ ...	22	35·5	30·8	„
following limb „ ...	23	47	29·8	„

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so that, if the unchecked place from W.B. can be depended on, the star will come within 10″ of the southern limb of the disc. The star of June 4 is Ll. 20183 and also star *f* on p. 280 of *Astr. Nachr.* vol. liii. Its conjunction with the following border occurs at 7^h 59^m, 39″·2 north, and with the preceding limb at 9^h 5^m, 38″·6 north.

Data for Computing the Positions of the Satellites of Jupiter, 1896–97. By A. Marth.

The following data for computing the places of the satellites for the approaching apparition of *Jupiter* are a continuation of those for the preceding apparitions published in vols. li.–lv. of the *Monthly Notices.* They furnish, at intervals of ten days, the mean longitudes l of the satellites and the arguments of their inequalities. The motions of the longitudes and arguments during the intervals, and the inequalities corresponding to the arguments, are to be found on pp. 524–539 of vol. li.

The inclinations γ and the longitudes of the nodes Γ of the planes of the orbits referred to the plane of *Jupiter's* equator are the following :—

		Sat. I.		Sat. II.		Sat. III.		Sat. IV.	
		γ_1	$0-\Gamma_1$	γ_2	$0-\Gamma_2$	γ_3	$0-\Gamma_3$	γ_4	$0-\Gamma_4$
1896.									
Sept.	17	0°·0097	187°·0	0°·4807	180°·63	0°·1265	131°·80	0°·3378	29°·44
Oct.	17	96	188·2	·4804	181·60	·1265	131·95	·3379	29·49
Nov.	16	95	189·5	·4802	182·57	·1265	132·09	·3380	29·54
Dec.	16	95	190·8	·4799	183·54	·1265	132·24	·3381	29·58
1897.									
Jan.	15	94	192·1	·4796	184·52	·1265	132·38	·3383	29·62
Feb.	14	0·0093	193·4	0·4794	185·49	0·1265	132·52	0·3385	29·66
Mar.	16	92	194·6	·4791	186·47	·1265	132·66	·3387	29·69
Apr.	15	92	195·9	·4788	187·44	·1264	132·81	·3388	29·72
May	15	91	197·1	·4785	188·42	·1264	132·95	·3390	29·74
June	14	90	198·4	·4782	189·40	·1263	133·10	·3392	29·76
July	14	0·0089	199·6	0·4780	190·38	0·1263	133·25	0·3394	29·77

The rectangular co-ordinates of the satellites referred to the axes of the disc of *Jupiter* are found by means of the formulæ (*v.* vol. li. p. 506) :